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Patrick R. Roche  
FAY, SHARPE, FAGAN, MINNICH & McKEE, LLP  
1100 Superior Avenue  
7th Floor  
Cleveland, OH 44114-2579

EXAMINER

KAO, CHIH CHENG G

ART UNIT PAPER NUMBER

2882

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

09/750,426

Applicant(s)

GRIMSLEY, THOMAS J.

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 8, 9, 12-14, 16, 17 and 21-23 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-4, 8, 9, 12-14, 16, 17 and 21-23 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 21, and 22, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeno et al. (US Patent 5135891) in view of Jedlicka et al. (US Patent 5604362) and McColgin et al. (US Patent 4553153).

2. Regarding claim 1, Ikeno et al. discloses a method (Title and left side of figs. 5A-5D) comprising the steps of providing a substrate (fig. 5C, #1) with at least one photosensor (fig. 5A, #7), applying a first filter layer (fig. 5C, #27) above the substrate, applying an inter-filter layer (fig. 5C, #25) over at least a portion of the first filter layer and on an area of the substrate not covered by the first filter layer, thereby smoothing a top surface of a electro-optical device without removing any material from the inter-filter layer (left side of figs. 5C and 5D), wherein the inter-filter layer is composed of an optically transmissive material (col. 5, lines 6-10 and 50), and applying a second filter layer (fig. 5C, #28) over at least a portion of the inter-filter layer without removing the inter-filter layer, wherein a filter layer contains dye (Abstract).

However, Ikeno et al. does not seem to specifically disclose a filter layer containing pigments and a layer composed of acrylic.

Jedlicka et al. teaches a filter layer containing pigments (col. 2, lines 1-19). McColgin et al. teaches a layer composed of acrylic (col. 5, lines 35-62).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Ikeno et al. with the pigments of Jedlicka et al., which is explained with motivation as follows. Since pigments and dyes are considered art-recognized equivalents known at the time the invention was made (col. 2, lines 1-19), one of ordinary skill in the art would have found it obvious to substitute dyes for pigments. One would be motivated to make such a modification based on what is more readily available (col. 2, line 11) as implied from Jedlicka et al.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Ikeno et al. as with the acrylic of McColgin et al., since one would be motivated to make such a modification for acrylic's high planarization factors (col. 5, lines 35-62) as implied from McColgin et al. Also note that it would have been within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

3. Regarding claim 2, Ikeno et al. further discloses applying a base layer before applying the first filter (fig. 5C, #24).

4. Regarding claim 3, Ikeno et al. as modified above suggests a method as recited above.

However, Ikeno et al. does not disclose mounting in an image forming system.

Jedlicka et al. further teaches mounting in an image forming system (col. 2, lines 38-42).

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It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further incorporate the method of Ikeno et al. with the mounting of Jedlicka et al., since one would be motivated to make such a modification to better scan for images in color (col. 1, lines 47-50) as implied from Jedlicka et al.

5. Regarding claim 4, Ikeno et al. as modified above suggests a method as recited above. Ikeno et al. further discloses an inter-filter layer or base layer as translucent or clear (col. 5, lines 6-10 and 50).

However, Ikeno et al. does not specifically disclose a layer as substantially colorless.

McColgin et al. teaches a layer as substantially colorless (fig. 2, #16, col. 7, lines 20-30, and col. 8, lines 4-8).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further incorporate the method of Ikeno et al. as modified above with the colorless layer of McColgin et al., since one would be motivated to make such a modification to simplify this portion of the color filter to be the only portion that is filtering (col. 7, lines 20-30) as implied from McColgin et al., rather than having two filters being colored and creating a combined filtering effect, which would require making more calculations to figure out what exactly will be filtered.

6. Regarding claim 21, Ikeno et al. further discloses applying an inter-filter layer (fig. 5C, #25) over a patterned first filter (fig. 5C, #27) and one of the substrate or a base layer (fig. 5C, #24).

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7. Regarding claim 22, Ikeno et al. further discloses no polishing or grinding (col. 4, line 55, to col. 5, line 19).

8. Claims 8, 9, 12-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeno et al. in view of Jedlicka et al, Koizumi et al. (US Patent 5698892), and McColgin et al.

9. Regarding claim 8 and for purposes of being concise, Ikeno et al. in view of Jedlicka et al. suggests a method as recited above. Ikeno et al. further discloses insertion of a second photosensor (fig. 5A, #7), covering an area of the base layer (fig. 5D, #24) overlaying the first photosensor (fig. 5D, #7) with a patterned first filter layer (fig. 5C, #27) allowing light having a wavelength within a first range to reach the first photosensor, and applying a patterned second filter layer (fig. 5D, #28) over the second photosensor.

However, Ikeno et al. does not specifically disclose a second filter allowing light having a wavelength within a second range to reach the second photosensor and acrylic.

Koizumi et al. teaches a second filter allowing light having a wavelength within a second range to reach the second photosensor (fig. 11D, "B", "R", or "G"). McColgin et al. teaches acrylic (col. 5, lines 35-62).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Ikeno et al. as modified above with the different color ranges of Koizumi et al., since one would be motivated to make such a

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modification to provide more functions and greater processing abilities of the image signal (col. 1, lines 24-27) as implied from Koizumi et al.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Ikeno et al. as modified above with the acrylic of McColgin et al., since one would be motivated to make such a modification for acrylic's high planarization factors (col. 5, lines 35-62) as implied from McColgin et al. Also note that it would have been within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

10. Regarding claim 9, Ikeno et al. as modified above suggests a method as recited above. Ikeno et al. further discloses an inter-filter layer or base layer as translucent or clear (col. 5, lines 6-10 and 50).

However, Ikeno et al. does not specifically disclose a layer as colorless.

McColgin et al. further teaches a layer as colorless (fig. 2, #16, col. 7, lines 20-30, and col. 8, lines 4-8).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further incorporate the method of Ikeno et al. as modified above with the colorless layer of McColgin et al., since one would be motivated to make such a modification to simplify this portion of the color filter to be the only portion that is filtering (col. 7, lines 20-30) as implied from McColgin et al., rather than having two filters being colored and creating a combined filtering effect, which would require making more calculations to figure out what exactly will be filtered.

11. Regarding claim 12, Ikeno et al. further discloses applying a second inter-filter layer on the second filter and on the first inter-filter layer not covered by the second filter, thereby smoothing a second top surface (fig. 5C, #26).

12. Regarding claim 13, Ikeno et al. as modified above suggests a method as recited above. Ikeno et al. further discloses an inter-filter layer or base layer as translucent or clear (col. 5, lines 6-10 and 50).

However, Ikeno et al. does not specifically disclose a layer as colorless.

McColgin et al. teaches a layer as colorless (fig. 2, #16, col. 7, lines 20-30, and col. 8, lines 4-8).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method and device of Ikeno et al. as modified above with the colorless inter-filter layer of McColgin et al., since one would be motivated to make such a modification to simplify this portion of the color filter to be the only portion that is filtering (col. 7, lines 20-30) as implied from McColgin et al., rather than having two filters being colored and creating a combined filtering effect, which would require making more calculations to figure out what exactly will be filtered.

13. Regarding claim 14, Ikeno et al. as modified above suggests a method as recited above.

However, Ikeno et al. does not disclose a layer with acrylic.

McColgin et al. teaches a layer with acrylic (col. 5, lines 35-62).



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It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Ikeno et al. as modified above with the acrylic of McColgin et al., since one would be motivated to make such a modification for acrylic's high planarization factors (col. 5, lines 35-62) as implied from McColgin et al. Also note that it would have been within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

14. Regarding claim 16, Ikeno et al. further discloses a linear array chip (fig. 7).

15. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeno et al. in view of Jedlicka et al, Koizumi et al., McColgin et al., and Uematsu (JP 59-092564).

For purposes of being concise, Ikeno et al. in view of Jedlicka et al., Koizumi et al., and McColgin et al. suggests a device as recited above. Ikeno et al. further discloses a first and second photosensor (figs. 5A and 5D, #7) disposed within a substrate (figs. 5C and 5D, #1).

However, Ikeno et al. does not disclose an inter-layer with a color to modify an incoming wavelength.

Uematsu teaches an inter-layer with a color to modify an incoming wavelength (abstract, constitution, and fig. 4, #11).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Ikeno et al. as modified above with the colored inter-layer of Uematsu, since one would be motivated to make such a modification to simplify structure (abstract, purpose) as shown by Uematsu.

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16. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeno et al., Jedlicka et al., and McColgin et al. as applied to claim 1 above, and further in view of Uematsu.

Ikeno et al. as modified above suggests a method as recited above.

However, Ikeno et al. does not disclose an inter-layer with a color to modify an incoming wavelength.

Uematsu teaches an inter-layer with a color to modify an incoming wavelength (abstract, constitution, and fig. 4, #11).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Ikeno et al. as modified above with the colored inter-layer of Uematsu, since one would be motivated to make such a modification to simplify structure (abstract, purpose) as shown by Uematsu.

### ***Response to Arguments***

17. The objection and rejection under 35 U.S.C. 112, second paragraph, to the claims have been withdrawn in light of the Amendment filed 3/2/05.

18. Applicant's arguments with respect to claims 1-4, 8, 9, 12-14, 16, and 21-23 have been considered but are moot in view of the new ground(s) of rejection.

19. Applicant's arguments filed 3/2/05 have been fully considered but they are not persuasive.

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Regarding Applicant's arguments for the non-obvious incorporation of pigments, the Examiner notes that consideration of pigment characteristics for layer smoothness was not disclosed in the Applicants' original specification. The Applicant only disclosed that the filter layer could be dyed or pigmented. Since Applicant has not shown the criticality of pigments in the original specification, Applicant's arguments are not persuasive in overcoming the claim rejections including the art-recognized equivalency of dyes and pigments.

Regarding McColgin et al., the test for obviousness is not whether the claimed invention is expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. McColgin et al. teaches that layers other than the filter layer are composed of acrylic. As such, it would have been obvious, to one having ordinary skill in the art, to have the other layers of the claimed invention (i.e. inter-filter layers) to be composed of acrylic too. Therefore, Applicant's arguments are not persuasive, and the claims remain rejected.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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EDWARD J. GLICK  
SUPERVISORY PATENT EXAMINER